

Dynamism of Monetary Transmission Mechanism in Nigeria: Interest Rate and Market Capitalization Causality Evidence

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Received: April 10, 2018

Accepted: April 23, 2018

Online Published: April 30, 2018

Abstract

The potency of monetary transmission channels anchors the process by which interest rate movements and other cardinal aggregates influence critical financial fundamentals in an economy. This study, thus, examines dynamism of the monetary transmission mechanism with focus on the causality of interest rate and market capitalization in the Nigerian economy. Time series data covering a period of 36 years (1981 - 2015) were extracted from publications of monetary authorities and related agencies, including annual reports of Deposit Money Banks (DMBs) in the country. Facilitated by E-Views software, the analytical proceedings generated the required statistical outcomes in terms of coefficient of correlation (r), coefficient of determination (R^2), t -statistic, and F -statistic. Granger causality test was also conducted to clearly establish the direction of causality between the focal variables. Essentially, the null hypothesis is rejected as probability of the F -statistic is less than the specified 0.05 level of significance. The granger causality test statistics run from four interest rate components to the operational capital market fundamental (with F -statistics of 5.758, 5.540, 4.209, and 5.656; as well as probability values of 0.008, 0.009, 0.002, and 0.009 respectively). In view of the analytical outcomes, it is recommended that interest rate components be efficiently synergized to boost investors' confidence and further drive monetary policy dynamics towards greater financial system vitality and sustainability in Nigeria.

Keywords: Interest Rate, Market Capitalization, Monetary Transmission, Nigerian Economy.

1. Introduction

Capital market activities greatly contribute towards the socio-economic growth and development of national economies. The intermediation role of mobilizing funds from surplus units to deficit units is critical to the economic growth of nations (Donwa & Odia, 2010). In the process, several financial institutions interface to mobilize and channel long-term funds for productive investment. By so doing, funds are exchanged for assets traded by stockholders, which in turn grant access to a variety of other financial instruments to enable economic agents feature more actively in the financial system. Through investment in assets with attractive yields, savings are boosted, thus galvanizing the machinery of economic growth and ultimately affording government, industries, and other corporate bodies the much needed long-term capital for financing new projects, as well as for the expansion/modernization of strategic industrial concerns. Against the imperativeness of capital market

functionality and overall financial sector vitality, government is poised to sustain optimum performance of these critical institutions.

Basically, the Nigerian capital market has primary and secondary market constituencies. In the primary market segment, new securities are featured to afford government and corporate entities the window to raise fresh capital and meaningfully trade in securities. The secondary market segment, on the other hand, provides complementary window for sellers and buyers to deal on existing (issued) securities. This, by extension, defines efficacy and efficiency of a functional financial primary market. Anchoring on the dynamism of the market framework, the monetary transmission mechanism represents a systemic process by which critical elements such as aggregate demand, interest rate, exchange rate and credit are creatively channelled to generate desired macroeconomic performance (Benassy, 2011; Agundu, 2012).

Many schools of thought have offered explanations to the behaviour of monetary policy variables in relation to capital market fundamentals. The *fundamental school* argue that stock prices have relationship with future earnings expectation, giving due consideration to future discount rate. The *technical school* contends that current stock prices have linear relationship with preceding prices. These positions basically affirm that stock prices are sensitive to the dynamics of macroeconomic variables as well as dividend policy of a firm. Furthermore, scholars who are associated with the Capital Assets Pricing Model (CAPM) and Arbitrage Pricing Model (APM), agree that stock prices are functionally determined by risk and market rate of return (Kevin, 2009; Ogbulu & Torbira, 2012). In the light of these dispositions, this study addresses dynamism of the monetary transmission mechanism with focus on the relationship between interest rate and market capitalization in the Nigerian economy. In line with this purpose, the following research hypothesis is elicited:

Ho: There is no significant relationship between interest rate and market capitalization in the Nigerian economy.

2. Literature Review

The dynamism of monetary transmission mechanism reflects in the sensitivity of consumption and investment to the exigencies of inter-temporal substitution. Basically, the elasticity of aggregate demand to interest rate equally determines the extent to which the encapsulated (component) channels would influence critical macroeconomic fundamentals. Hypothetically, financial intermediation is not underscored by analysts as they elect to (conveniently) work on the assumption of an economy without banks, where borrowers and lenders rather exchange their resources directly. However, the interest rate channel finds expression to the extent that a shift in real interest rate impacts economic aggregates, especially consumption, investment, output level, and prices. Again, increase in interest rate exerts substitution effect which discourages investment and consumption, and subsequently creates wealth effect, depending on the borrowing or lending capacity of economic institutions (Ohale & Onyema, 2002). Decline in interest rates also feature as a factor that stirs future inflation. Where contractionary monetary policy offsets such inflationary trend, long-term rates end up increasing relative to anticipated increase in the future policy rate.

Where a rise in interest rate is caused by monetary contraction, any investment or consumption tendency whose risk-adjusted expected return is lower than the financing cost is to be relegated or discarded. In the circumstance, inefficiency is strictly not allowed to exist in the afore-mentioned contracting investment or consumption deals. This implies that resources necessarily have to be efficiently employed at the prevailing interest rate (Cecchetti, 1999). Nonetheless, the investment decisions of a firm/household are viewed by analysts in terms of the *Tobin's q* , which is determined as ratio of market value of a firm to the replacement cost of capital (Tobin, 1969). Consequently, when the q is high, market price of firms is also high relative to the replacement cost of capital; while new plant and equipment capital becomes cheap relative to market value of firms. Firms then issue stock and attract high price for the issued stock relative to the cost of equipment and other facilities being

procured. As a result, investment spending increases relative to the tendency of firms to procure new investment goods with minimal issue of stock.

In principle, this reasoning addresses household investment decisions, as the *Tobin's q* theory is connected with the user cost of capital approach. Characteristically, the analysis underscores a link between the *q*-theory and the user-cost approach, which allows for convenient functionalization and emphasis on higher degree of richness in the relationship between stock prices and investment spending (Hayashi, 1982). From the *classical* view point, the traditional channel of monetary transmission mechanism addresses the impact of interest rates on cost of capital, thereby impacting business/household investment spending (particularly on residential and consumer durables). The standard neoclassical models of investment further demonstrate that user cost of capital is a key determinant of the demand for capital, be it investment goods or residential housing/consumer durables, and this could be functionally expressed in terms of critical variables such as:

- Relative price of new capital,
- Nominal interest rate,
- Expected rate of price appreciation of the capital asset, and
- Depreciation rate.

The user cost function, thus, allows for deductibility of the interest rate where the nominal interest rate is adjusted by the marginal tax rate. By this, the user cost of capital is relatively simplified in terms of after-tax real interest rate and expected real rate of appreciation of the capital asset, given the expected inflation rate. In essence, easing monetary policy and lowering interest rates is expected to cause increase in demand for stocks and, consequently, rise in stock prices. It eventually leads to increase in investment spending and aggregate demand, although macroeconomic response to policy-induced interest rate changes may be considerably larger than the magnitude indicated by conventional estimates of interest elasticity of consumption and investment (Bernanke & Gertler, 1995). The focus of this study, therefore, is on the relationship between the interest rate and market capitalization in the Nigerian economy.

3. Methodology

In furtherance of the study, secondary data were sourced from publications of Central Bank of Nigeria (CBN), Nigerian Stock Exchange (NSE), National Bureau of Statistics (NBS), and Federal Ministry of Finance (FMF), including financial statement information from listed Deposit Money Banks (DMBs) in Nigeria. The dependent variable is denoted by ratio of Market Capitalization to Broad Money Supply (MC/M2), while Interest Rate, the independent variable, comprises Prime Lending Rate (PLR), Monetary Policy Rate (MPR), Savings Rate (SR), Maximum Lending Rate (MLR), and Long-term Savings Rate (LSR).

By adopting an *ex-post facto* research design, there was no room for direct control of the focal variables, as the macroeconomic/financial time series have already been recorded by the relevant authorities/agencies. The apparatus, thus, involved scientific and analytical examination of the dependent variable, combining theoretical consideration (*a priori* criterion) with real time evaluation. Essentially, the study relied on the historical time series data to undertake initial investigation of characteristic properties of the variables. Subsequently, examination of possible long-run relationship between the interest rate and market capitalization was logically effected (Akani, 2013; 2017). The data for the study cover a period of 36 years (1981–2015), while the inferential outcomes are featured in terms of coefficient of correlation (r), coefficient of determination (R^2), t -statistic, and F -statistic.

The analytical model specification in the study elicited the adoption of Ordinary Least Square (OLS) and Granger Causality analytical techniques. Also, Vector Error Correction Mechanism (VECM) is employed to address shortcomings of Vector Auto Regression (VAR) and retain the convergence-fostering attributes of the model

(Gujarati, 2003; Ogbulu & Uruakpa, 2011; Akani, Okonkwo & Ibenta, 2016). Accordingly, the model captures and mainstreams the study variable thus:

$$MC/M2 = f(PLR, MPR, SR, MLR, LSR) \dots \text{ (Equation 1)}$$

$$MC/M2 = \beta_0 + \beta_1 PLR + \beta_2 MPR + \beta_3 SR + \beta_4 MLR + \beta_5 LSR + e \dots \text{ (Equation 2)}$$

Where: e = Error term

β_0 = Regression intercept

$\beta_1 - \beta_5$ = Independent variables coefficients

Since unit root exists in most macroeconomic time series, inherent *stationarity* properties of the research data are examined using the Augmented Dickey Fuller (ADF) test. By this approach, the null hypothesis is rejected if obtained t-statistic is less than critical t-statistic; otherwise, it refrains from rejecting the null hypothesis at the specified level of confidence. The Johansen's co-integration test is conducted to ascertain the existence of long-run equilibrium among the time series variables, particularly if the residual is stationary at the specified level. Where the variables are co-integrated, then a long-run relationship exists among them (Dickey & Fuller, 1981; Johansen, 1991).

The presence of co-integrating relationship forms basis of use of the Vector Error Correction Model. With the aid of E-views software, the analysis takes into consideration the critical values and empirical perspectives underscored by leading proponents of the afore-stated techniques, including Vector Auto-regression (VAR) - based co-integration. For analytical comprehensiveness, Granger causality test is conducted to clearly establish the direction of causality between the variables specified in the model (Engel & Granger, 1987). To this end, the null hypothesis is rejected if probability of the F-statistic is less than the specified level of significance (0.05). In this study, therefore, the analytical outcome is expected to substantiate the direction of causality between interest rate components and market capitalization.

4. Results

The analytical results comprise outcomes of regression, unit root, co-integration/normalized co-integration, and Granger causality tests. Vector Error Correction results determining the long-run relationship between the variables are also featured, with the operationalized OLS outcomes indicating the dynamism of interest rate components of the monetary transmission mechanism in relation to the capital market performance proxy. The overall fit of the model is established with an F-statistic of 4.218 (p-value = 0.005) while the Durbin-Watson (D-W) statistic of 1.23 situates outside the critical range (dL – dU) of 1.50 - 1.84 respectively. In view of the dependence of the research data on time, results of unit root test using the Augmented Dickey Fuller (ADF) approach are featured, indicating that the variables are integrated of order 1(1). This revelation is indicative that a long-run relationship exists between the research variables, which further corroborate the outcome of Johansen's co-integration test.

The Johansen co-integration test results visibly justify acceptance of the alternative hypothesis, that the linear serialization of the variables are stationary in the long run. They affirm the existence of long-run relationship between the interest rate components and market capitalization. The normalized co-integration test results equally establish existence of long-run relationship among the variables. Concerning the pair-wise test of causality between the dependent variable and the independent variable, the results indicate uni-directional causality at 5% level of significance. The Vector Error Correction Model (VECM) results indicate R^2 of 61% and adjusted R^2 is 59%. This ultimately exemplifies a good fit, alongside the parsimonious error correction results. Categorically, the *granger causality* test statistics run from:

- LSR to MC/M2, with F-statistic of 5.758 and p-value of 0.008;
- MLR to MC/M2, with F-statistic of 5.540 and p-value of 0.009;

- PLR to MC/M2, with F-statistic of 4.209 and p-value of 0.002, and
- SR to MC/M2, with F-statistic of 5.656 and p-value of 0.009.

The baseline time series and ensuing analytical statistics are detailed in Tables 1 to 9:

Table 1: Time Series Data for Analysis

Year	MC/M2 %	PLR %	MPR %	SR %	MLR %	LSR %
1981	34.55	7.75	6.00	6.00	10.00	6.50
1982	31.67	10.25	8.00	7.50	11.75	8.00
1983	32.23	10.00	8.00	7.50	11.50	8.00
1984	27.36	12.50	10.00	9.50	13.00	10.00
1985	29.60	9.25	10.00	9.50	11.75	10.00
1986	28.56	10.50	10.00	9.50	12.00	10.00
1987	29.74	17.50	12.75	14.00	19.20	15.80
1988	26.07	16.50	12.75	14.50	17.60	14.30
1989	27.88	26.80	18.50	16.40	24.60	21.20
1990	30.84	25.50	18.50	18.80	27.70	23.00
1991	30.64	20.01	15.50	14.29	20.80	20.10
1992	28.08	29.80	17.50	16.10	31.20	20.50
1993	28.73	18.32	26.00	16.66	36.09	28.02
1994	28.79	21.00	13.50	13.50	21.00	15.00
1995	62.40	20.18	13.50	12.61	20.79	14.27
1996	82.64	19.74	13.50	11.69	20.86	13.55
1997	68.21	13.54	13.50	4.80	23.32	7.43
1998	53.80	18.29	13.50	5.49	21.34	10.09
1999	47.70	21.32	18.00	5.33	27.19	14.30
2000	53.76	17.98	14.00	5.29	21.55	10.44
2001	52.19	18.29	20.50	5.49	21.34	10.09
2002	50.79	24.85	16.50	4.15	30.19	15.57
2003	69.60	20.71	15.00	4.11	22.88	11.88
2004	99.09	19.18	15.00	4.19	20.82	12.21
2005	109.94	17.95	13.00	3.83	19.49	8.68
2006	134.83	17.26	10.00	3.14	18.70	8.26
2007	257.08	16.94	9.50	3.55	18.36	9.49
2008	119.41	15.14	9.75	2.84	18.70	11.95
2009	74.71	18.99	6.00	2.68	22.62	12.63
2010	89.88	17.59	6.25	2.21	22.51	7.19
2011	84.41	16.02	12.00	1.41	22.42	6.30
2012	106.52	16.79	12.00	1.70	23.79	7.63
2013	125.84	16.72	12.00	2.17	24.69	6.72
2014	95.45	16.55	13.00	3.38	10.00	9.89
2015	89.96	16.85	11.00	3.57	26.96	8.26

Source: Financial Publications of CBN, NBS, FMF & DMBs (Various years).

Table 2: Ordinary Least Square (OLS) Statistical Details

VARIABLE	COEFFICIENT	STD ERR.	T-STATISTICS	PROB.
LSR	1.569015	3.448946	0.454926	0.6525
MLR	-0.275657	1.997400	-0.138008	0.8912
MPR	-1.967750	2.585367	-0.761111	0.4527
PLR	2.515877	2.270794	1.107928	0.2770
SR	-6.749467	2.639834	-2.556777	0.0161
β_0	86.30675	27.31523	3.159656	0.0037
R^2	0.421061			
ADJ. R^2	0.321243			
F-STATISTICS	4.218319			
F-PROB	0.005286			
Durbin-Watson stat	1.230796			

Source: E-views AnalyticalOutput (2017)

Table 3: Unit Root Statistical Details

VARIABLE	ADF STATISTICS	MACKINNON			PROB .	ORDER OF INTR.
		1%	5%	10%		
MC/M2	-7.710413	-3.661661	-2.96041	-2.619160	0.0000	1(1)
			1			
LSR	-9.907440	-3.661661	-2.96041	-2.619160	0.0000	1(1)
			1			
MLR	-6.594827	-3.653730	-2.95711	-2.617434	0.0000	1(1)
			0			
MPR	-7.981873	-3.646342	-2.95402	-2.615817	0.0000	1(1)
			1			
PLR	-5.711991	-3.653730	-2.95711	-2.617434	0.0000	1(1)
			0			
SR	-5.923445	-3.646342	-2.95402	-2.615817	0.0000	1(1)
			1			

Source: E-views AnalyticalOutput (2017)

Table 4: Johansen Co-Integration (Maximum Eigen) Statistical Details

Hypothesized No. of CE(s)	Eigen Value	Maximum-Eigen	0.05 Critical Value	Prob.**	Decision
None *	0.769540	48.43333	40.07757	0.0046	Reject H_0
At most 1	0.628354	32.66384	29.87687	0.0092	Reject H_0
At most 2	0.475008	31.26430	27.58434	0.0406	Reject H_0
At most 3	0.228945	28.57984	21.13162	0.0048	Reject H_0
At most 4	0.208898	7.732834	14.26460	0.4065	Reject H_0
At most 5	0.087682	3.028286	3.841466	0.0818	Accept H_0

None *	0.750483	45.81157	40.07757	0.0102	Reject H_0
At most 1	0.580551	38.67080	33.87687	0.0043	Reject H_0

NB: The test assumes linear deterministic trend in the data series comprising LSR, MLR, MPR, PLR, SR, and MC/M2

*(**) Denotes rejection of the hypothesis at 5%.

Source: E-views AnalyticalOutput (2017)

Table 5: Normalized Co-integrating Analytical Results

Variable	Coefficient	Std. Error	Remark (Expectation)
MC/M2	1.000000		
LSR	16.99819	3.85552	Confirmed
MLR	-11.77181	2.28873	Contrary
MPR	12.71421	2.24945	Confirmed
PLR	-7.566577	2.50337	Contrary
SR	8.535571	2.80487	Confirmed

Source: E-views AnalyticalOutput (2017)

Table 6: Pair-Wise Granger Causality Test Results

Null Hypothesis:	Obsv	F-Statistic	Prob.	Decision	Remark
LSR does not Granger Cause MC_M2	33	5.75796	0.0080	Reject H_0	Causality
MC_M2 does not Granger Cause LSR		0.40023	0.6739	Accept H_0	No Significant Causality
MLR does not Granger Cause MC_M2	33	5.53959	0.0089	Reject H_0	Causality
MC_M2 does not Granger Cause MLR		0.76391	0.4753	Accept H_0	No Significant Causality
MPR does not Granger Cause MC_M2	33	0.95765	0.3960	Accept H_0	No Significant Causality
MC_M2 does not Granger Cause MPR		2.74178	0.0818	Accept H_0	No Significant Causality
PLR does not Granger Cause MC_M2	33	4.20940	0.0023	Reject H_0	Causality
MC_M2 does not Granger Cause PLR		1.23246	0.3069	Accept H_0	No Significant Causality
SR does not Granger Cause MC_M2	33	5.65603	0.0090	Reject H_0	Causality
MC_M2 does not Granger Cause SR		1.24658	0.3030	Accept H_0	No Significant Causality

Source: E-views AnalyticalOutput (2017)

Table 7: Over-Parameterized Analytical Results

VARIABLE	COEFFICIENT	STD ERR.	T-STATISTICS	PROB.
C	3.705379	8.348647	0.443830	0.6658
D(MC_M2(-1))	0.296947	0.404806	0.733553	0.4786
D(LSR(-1))	-5.770891	4.802849	-1.201556	0.2548
D(MLR(-1))	2.533071	2.666899	0.949819	0.3626
D(MPR(-1))	-5.847021	4.806143	-1.216573	0.2492
D(PLR(-1))	-1.250728	4.898301	-0.255339	0.8032
D(SR(-1))	11.47860	7.139423	1.607777	0.1362
ECM(-1)	-1.092006	0.448192	-2.436466	0.0630
R ²	0.608955			
ADJ. R ²	0.566486			
F-STATISTICS	3.901566			
F-PROB	0.054452			
Durbin-Watson	2.104219			

Source: E-views AnalyticalOutput (2017)

Table 8: Parsimonious Error Correction Results

VARIABLE	COEFFICIENT	STD ERR.	T-STATISTICS	PROB.
C	4.977777	6.609843	0.753086	0.4606
D(MC_M2(-1))	0.109992	0.257258	0.427556	0.6738
D(LSR(-1))	1.155015	2.958291	0.390433	0.7006
D(MLR(-1))	0.535722	1.723301	0.310870	0.0593
D(MPR(-1))	-3.552114	2.954150	-1.202415	0.0040*
D(PLR(-1))	2.762367	2.161138	1.278200	0.0066*
D(SR(-1))	5.459298	5.166434	1.056686	0.3039
ECM(-1)	-0.708108	0.291797	-2.426715	0.0054
R ²	0.723373			
ADJ. R ²	0.689537			
F-STATISTICS	4.268205			
F-PROB	0.000738			
Durbin-Watson	2.173426			

Source: E-views AnalyticalOutput (2017)

Table 9: Hypothesis Test Results

	Hypothesized	F-Statistic	Probability	Decision	Remark
H ₀₁	Interest Rate and Market Capitalization	4.268205	0.000734	Sig.	Reject H ₀

Source: E-views AnalyticalOutput (2017)

These analytical results comprehensively establish that there is a significant relationship between interest rate and market capitalization in the Nigerian economy.

4. Discussion

Precipitating from the analytical process, there is long-run equilibrium in the relationship between interest rate and market capitalization in the Nigeria economy. Essentially, the analytical components of the interest rate channel *granger cause* changes in market capitalization. Their causality is uni-directional as the run (interface) of eligible independent variable components and the dependent variable is buttressed by the *granger causality* test. This disapproves of the tendency of banks to set high interest rates, while seeking to earn maximum interest income. They face the challenge of having to consider the realities of adverse selection challenges and associated moral hazards in view of the apparent difficulty in forecasting borrower types at the start of the bank - facilitating relationship. Those who dare to charge very high interest rates may end up inducing adverse selection problems where high-risk borrowers are willing to accept the facilities at the high rates. Once the deal is struck and borrowers get the disbursements, they take on high-risk projects/investments (Ezirim & Emeyonu, 1998; Toby, 2006; Agundu, Akani & Agbahiwe, 2013).

Nonetheless, the Keynesian liquidity preference theory holds sway in the analysis of interest rate. This prevails by interplay of the forces of demand for and supply of money. The *stock* analysis assumes supply of money as given during the short-run, hence interest rate is determined by liquidity preference or demand for money. On the other hand, the *flow analysis* relates to loanable funds, of which interest rate is expected to be determined by the demand for and supply of loanable funds. In all this, interest rate is linked to savings (bank money) on the supply side hence the liquidity preference theory (driven by Keynesianism) and the interest rate theory (advanced from classicalism) remain crucial in analysing the dynamism of monetary transmission mechanism relative to market capitalization. As the parsimonious vector error correction results analytically established a significant relationship between interest rate and market capitalization, the high adjusted R^2 (0.689) implies that the model attributes 69% of variations in the percentage of market capitalization to broad money supply to the components of interest rate (PLR, MPR, SR, MLR, and LSR). The vector error correction model features a negative value (-0.708), indicating that 71% of the deviation from long run equilibrium in the inverse relationship between interest rate and market capitalization is corrected as the analytical aggregates evolve annually.

The error correction term (from the vector error correction model) indicates the extent to which disequilibrium in the relationship is corrected in the course of time. The parsimonious error correction results (evolving from general to specific) are also indicative of good fit with enhanced R^2 of 72%, and adjusted R^2 of 69%. Thus, with the analytical proceeds of model, monetary transmission mechanism accounts for 69% of variations in capital market fundamentals. The D-W statistic of 2.17 (and p-values of 0.0013, 0.0593, 0.0040, and 0.0066 for LSR, MLR, MPR, and SR respectively) indicate absence of autocorrelation, hence they are stationary in the long-run. Their coefficients are statistically significant at the 5% level. Ultimately, it is established that interest rate is significantly related with market capitalization in the Nigerian economy.

6. Conclusion

This study examined the dynamism of monetary transmission mechanism with focus on interest rate and market capitalization in the Nigerian economy. The dependent variable, market capitalization, was denoted by the ratio of total naira market value of outstanding shares to broad money supply. The independent variable, interest rate, featured five analytical components. First is the prime lending rate, which commercial banks charge their most credit-worthy customers. Second is the maximum lending rate, the highest at which commercial banks lend to critical sectors of the economy, as determined by market forces. Third is the monetary policy rate, at which the CBN lends to banks under temporary liquidity squeeze. This usually goes a long way in determining the rate banks adopt for on-lending of funds to businesses in the country. Fourth is the short-term savings rate, applied on deposits with maturity of not more than one year. Fifth is the long-term savings rate, applied on deposits with

maturity above one year as reported by the monetary authorities.

The coefficients of components of the independent variable are positive except for long-term saving rate, maximum lending rate and monetary policy rate. Furthermore, their t-statistics are negative, except monetary policy rate, maximum lending rate, and prime lending rate whose probability values are significant. These monetary variables, in particular, are functionally identified with the performance of the capital market in Nigeria. Added to them are several factors which contribute in defining the dynamism of monetary transmission mechanism. They range from direct, user-cost channels to the horizon over which interest rate influences spending. As capital assets are of long-term nature, adjustment of stocks involves planning, procurement, and installation costs. To this end, businesses and households are expected to take a long view in factoring variation in interest rates into their investment decisions.

In the light of the analytical outcomes, this study particularly establishes that there is long-run equilibrium in the relationship between interest rate components. Maximum lending rate, saving rate, prime lending rate, and long-term saving rate have a significant relationship with market capitalization. The parsimonious error correction outcome affirms high equilibrating capacity in the explanatory variables as they evolve annually. Maximum lending rate, saving rate, prime lending rate, and long-term saving rate *granger cause* changes in market capitalization (with uni-directional causality specificity). It is, therefore, recommended that interest rate components be efficiently managed to enhance investors' confidence, check capital flight, and strategically drive monetary policy dynamics towards greater systemic soundness in Nigeria. This will attract domestic/foreign investors on a sustainable basis, boost capital market liquidity, and make for deeper dynamism of the monetary transmission mechanism in the Nigerian economy.

References

- Agundu, P. U. C. (2012). *Vintage: Strategic Financial Management and Macroeconomic Advancement*, Port Harcourt: MPP.
- Agundu, P.U.C, Akani W.H and Agbahiwe, A.C. (2013). Intervention strategy, Banking Reengineering and Capital Formation in Nigeria. *Research Journal of Finance and Accounting*, 4(19), 108-115.
- Akani H. W. (2013). Analysis of macroeconomic aggregates and stock price in Nigeria: An application of co-integration and causality test. *International Journal of Academic Research*. 1(3), 56-79.
- Akani, H. W., (2017). Effects of Monetary Policy Transmission Mechanism on Capital Market Fundamentals in Nigeria: 1981 – 2015 (Unpublished PhD Thesis), Nnamdi Azikiwe University, Awka, Nigeria.
- Akani, H. W., Okonkwo V. I. & Ibenta, S. N. (2016). Empirical analysis of monetary policy and capital market activities: Evidence from Nigerian Economy, *Journal of Accounting and Financial Management*, 2(3), 82–111.
- Benassy, J. (2011). *Macroeconomic Theory*. Oxford: Oxford University Press.
- Bernanke, B. S. & Gertler, M. (1995). Inside the Black Box: The credit channel of monetary policy transmission mechanism. *The Journal of Economic Perspectives*, 9(4), 27-48.
- Cechetti, S. (1999). Legal structure, financial structure and the monetary transmission mechanism. *NBER Working Paper* 7151.
- Central Bank of Nigeria (2015); *Contemporary Economy Policy ISSUES in Nigeria*. Abuja: CBN
- Dickey, D. & Fuller, W. (1981). Likelihood ratio statistics for autoregressive time series with unit root. *Econometrica*, 17(49), 1057 – 1072.
- Donwa, P. & Odia, J. (2010). An empirical analysis of the impact of the Nigerian Capital Market on her socio-economic development. *Journal of Social Science*, 24(2), 135-142.
- Engel, R. F. & Granger, W. J. (1987). Co-integration and error correction models. *Econometrica*, 17, 1062 – 1356.

- Ezirim, B. C. & Emenyonu, E. N. (1998). *Bank Lending and Credit Administration. A Lender's Perspective with Cases and Suggested Solutions*. Port Harcourt: Markowitz Centre for Research and Development.
- Gujurati, D.N.(2003). *Basic Economics*. New Delhi: Tata - McGraw-Hill.
- Hayashi, F. (1982). Tobin's Marginal and Average q : A neoclassical interpretation, *Econometrica*, 50(1), 213-224.
- Johansen, S. (1991). Estimation and hypothesis testing of co-integration model, *Econometrica*, 59, 1551–1580.
- Kevin, A.U. (2009). Is monetary policy effective during financial crises? *American Economic Review Papers & Proceedings*, 99(2), 573–577.
- Ogbulu, M. O. & Torbira, L. L. (2012). Monetary policy and the transmission mechanism: Evidence from Nigeria. *International Journal of Economics and Finance*, 4(11), 122-133.
- Ogbulu, O. M. & Uruakpa, C. P. (2011). Monetary policy and stock prices in Nigeria: A co-integration and error correction approach. *Journal of Arts, Management, Education, Law and Social Science*, 1(1), 60–85.
- Ohale, L. & Onyema, J. I. (2002). *Foundations of Economics*, Owerri: Springfield Publishers.
- Sharpe, W. F. (1964). Capital asset prices: A theory of market equilibrium under conditions of risk. *Journal of Finance*, 7(19), 425-442.
- Tobin, J. (1969). A general equilibrium approach to monetary theory. *Journal of Money, Credit and Banking*, 1(1), 15-29.
- Toby, A. J. (2006). *Banking System Soundness: Theory and Policy*. Port Harcourt: Pearl Publishers

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